

WHAT IS CLAIMED IS:

1. A copolymer comprising units derived from ethylene and 1-heptene wherein the peak force at break per millimeter of film thickness P of a blown film made of the copolymer satisfies the following relationship:

5 $P > 1.9 C - 127$ (1)

wherein P is expressed in N/mm and determined on a 50 micrometer thick blown film according to ASTM-D5748-95 ; and

C is given by the relationship $C = D(1-CFW)$, wherein D is the density of the copolymer measured in kg/m³ according to ASTM-D-792 and CFW is the weight fraction of the copolymer having a crystallization point of 75°C or higher as determined using crystallization analysis fractionation, and C is greater than or equal to 550.

- 10 2. The copolymer of claim 1 wherein P satisfies the following relationship:

15 $P > 2.7 C - 563$ (1a)

wherein P and C have the same meanings as in formula 1 in claim 1.

- 20 3. The copolymer of claims 1 wherein P satisfies the following relationships:

25 $P > 3.4 C - 944$ (1b)

wherein P and C have the same meanings as in formula 1 in claim 1.

4. A copolymer according to any of the claims 1-3 wherein the density D is from 890 to 20 935 kg/m³ and the melt index as measured according to ASTM-D-1238 Procedure A, Condition E at 190 °C/2.16 kg is from 0.3 to 25 g/10 min.

5. A copolymer according to claim 4 wherein the density D is from 895 to 930 kg/m³.

6. A copolymer according to claim 5 wherein the density D is from 901 to 928 kg/m³.

7. A copolymer according to any of the claims 4-6 wherein the melt index is from 0.5 25 to 10 g/10 min.

8. A copolymer according to any of the claims 1-7 wherein the fraction CFW is from 0 to 0.5.

9. A composition comprising a copolymer of any of the claims 1-8.

10. An article prepared from or containing a copolymer of any of the claims 1-8 or a composition of claim 9.
11. An article of claim 10 which is a film.
12. An article of claim 11 which is a packaging film

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